



## **WESTERN MICHIGAN UNIVERSITY GEOSCIENCES DEPARTMENT**

### **Groundwater and surface water program history**

#### **Applied Research Programs 1978 to Present**

Studies, functions, reports and publications, other

- Departmental, Agency and Institutional collaboration
- Geologic Mapping
- Groundwater modeling
- Geochemistry
- Groundwater & surface water studies
- Geologic and groundwater publications
- Grants, Faculty and Theses studies and publications
- 1981 – Groundwater Atlas of Michigan
- 1984 - Groundwater Education for Michigan (GEM), a Kellogg Foundation Grant
- 1984-85 - Southwest Michigan Groundwater Survey and Monitoring Program.
  - Developed the initial software that evolved into “Wellogic”, a Kellogg Foundation Grant
- 1986 - Research Excellence Grant - Staff hires to establish the Institute for Water Sciences (IWS), funded by WMU office of VP Research.
- Slope, land and beach hazards
  - 1970, R. A. Davis beach studies of erosion and resulting publications
  - 1998 , R. Chase, Slope Stability (USCOE) along Lake Michigan
  - 2007 – D. Barnes, et. al. Beach erosion studies Lake Michigan
  - 1989-92, Straw, W.T., Shore Line Stability Studies; Douglas, Tawas City, Duck Lake, MI.
- Wetlands hydrology program, W.T. Straw with the Army Corp of Engineers
- 1990 USEPA program (Duane Hampton)
- 2000 – USEPA & MDEQ PCB Remediation overview
- 1995 – present - Geologic mapping
  - Surface mapping contract with USGS for geologic quadrangles
  - Presenting 3-D aspects of glacial deposits to assess groundwater resources

#### **Academic Applied Research programs**

- 1965 Geology BS/BA
- 1970 Geology MS/MA
- 1983 Hydrogeology BS & MS (400 + graduates)
- 1983 Michigan Geologic Repository for Research and Education (MGRRE)
- 1989 Institute for Water Sciences (IWS) faculty and equipment.
- 1989 Hydrogeology field program/camp
- 1990 PhD program, Hydrogeology, Geophysics, other geosciences degrees
- 2003 Geochemistry Major